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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/407,115	09/27/1999	LARRY W. FULLERTON	1659.0800000	2312

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EXAMINER
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SHELEHEDA, JAMES R

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 09/407,115	<b>Applicant(s)</b> FULLERTON ET AL.	
	<b>Examiner</b> James Sheleheda	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
     4a) Of the above claim(s) 19-23 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-18 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____.<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____. |
|---|--|

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 22 (second occurrence) been renumbered 23.

### ***Election/Restrictions***

2. Newly submitted claims 19-23 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

I. Claims 1-18 are drawn to wirelessly transmitting signals from a first transceiver to a second transceiver.

II. Claims 19-23 are drawn to a third transceiver which determines the position of a second transceiver based upon a first and second transceiver and transmitting signals based upon this determination.

Inventions I and II are related as subcombinations usable together in a single combination.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper. See MPEP § 806.05(d).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 19-22 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3, 5-9 and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hylton et al. (Hylton) (5,613,191) (of record) in view of Fullerton (5,687,169) (of record).

As to claim 2, Hylton discloses a system comprising: a **tuner** (Fig. 8, 512) adapted to receive a signal (column 29, lines 19-22), a **video display** (TV1) physically separate from the tuner (see Fig. 8), a first **transceiver** (516 and 530, column 30, lines 61-64), coupled to the tuner (column 29, lines 27-30), to wirelessly transmit the signal received by the tuner (column 29, lines 27-46) to a second transceiver

(Transceiver/DET 508) (column 33, lines 66-67 and column 34, lines 1-9); wherein the **second transceiver** is coupled to the video display (column 29, lines 15-18) and **receives** the signal transmitted by the first transceiver (column 31, lines 20-36) to thereby **drive** the video display using the received signal (column 32, lines 31-33).

While Hylton discloses the use of spread spectrum radio transceivers (column 29, lines 27-35), he fails to disclose the use of ultra-wideband transceivers.

Fullerton discloses the use of impulse radio (or TM-UWB) transceivers in wireless communication applications (column 4, lines 19-21) for the advantage of using transceivers which are simpler and less costly than those which utilize spread spectrum. (column 4, lines 26-44).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Hylton's system to include the use of a impulse radio (or TM-UWB), as taught by Fullerton, for the advantage of using transceivers which are simpler and less costly than those which utilize spread spectrum.

As to claim 3, Hylton and Fullerton disclose wherein the first UWB transceiver is adapted to transmit the signal as a time modulated ultra-wideband (or impulse radio) impulse signal (see Fullerton at lines 1-5 of the Abstract).

As to claim 5, Hylton and Fullerton disclose wherein the signal comprises a digital video signal (see Hylton at column 29, lines 19-25).

As to claim 6, Hylton and Fullerton disclose wherein the signal comprises a analog video signal (see Hylton at column 29, lines 25-28).

As to claim 7, Hylton and Fullerton disclose wherein the signal comprises an audio/video signal (see Hylton at column 31, lines 29-36).

As to claim 8, Hylton and Fullerton disclose wherein a speaker, coupled to the second TM-UWB transceiver, that is driven by the signal received by the second TM-UWB transceiver (wherein a television set inherently contains a speaker, see Hylton at column 32, lines 31-33).

As to claim 9, Hylton discloses in a system including a **tuner** (Fig. 8, 512) coupled to a first transceiver (column 29, lines 27-30) and a **video display** physically separate from the tuner (see Fig. 8, TV1), the video display coupled to a second transceiver (column 29, lines 15-18), a method comprising the steps of: **receiving** a signal at the tuner (column 29, lines 19-22), **transmitting** the signal from the first transceiver to the second transceiver (column 29, lines 27-46, column 33, lines 66-67 and column 34, lines 1-9), **receiving** the signal at the second transceiver (column 33, lines 66-67 and column 34, lines 1-9), and **driving** the display (column 32, lines 31-33) with the signal received at the second transceiver (column 31, lines 20-28). While Hylton discloses establishing a wireless link between spread spectrum radio

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transceivers (column 29, lines 27-35), he fails to disclose linking ultra-wideband transceivers that transmit the signals as UWB impulse signals.

Fullerton discloses the use of impulse radio (or TM-UWB) transceivers in wireless communication applications (column 4, lines 19-21), wherein the signals are transmitted as TM-UWB impulse signals (see Fullerton at lines 1-5 of the Abstract), for the advantage of using transceivers which are simpler and less costly than those which utilize spread spectrum (column 4, lines 26-44).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Hylton's system to include the wireless linking of impulse radio (or TM-UWB) transceivers, wherein the signals are transmitted as TM-UWB impulse signals, as taught by Fullerton, for the advantage of using transceivers which are simpler and less costly than those which utilize spread spectrum.

As to claim 11, Hylton and Fullerton disclose wherein the signal comprises a digital video signal (see Hylton at column 29, lines 19-25).

As to claim 12, Hylton and Fullerton disclose wherein the signal comprises an analog video signal (see Hylton at column 29, lines 25-28).

As to claim 13, Hylton and Fullerton disclose wherein the signal comprises an audio/video signal (see Hylton at column 31, lines 29-36).

As to claim 14, Hylton and Fullerton disclose wherein a speaker, coupled to the second UWB transceiver, that is driven by the signal received by the second UWB transceiver (wherein a television set inherently contains a speaker, see Hylton at column 32, lines 31-33).

As to claim 15, Hylton and Fullerton disclose the step of establishing a full duplex wireless communication link between the first TM-UWB transceiver and the second TM-UWB transceiver (see Fullerton at column 9, lines 56-65 or see Hylton at column 30, lines 49-64) prior to transmitting the signal from the first TM-UWB transceiver to the second TM-UWB transceiver (see Fullerton at column 10, lines 43-67 and column 11, lines 1-9 or see Hylton at column 29, lines 36-44).

As to claim 16, Hylton and Fullerton disclose wherein the wireless communication link supports a broadband connection (higher) from the first transceiver to the second transceiver and a narrowband connection (lower) from the second transceiver to the first transceiver (see Hylton at column 34, lines 2-7).

As to claim 17, Hylton and Fullerton disclose the steps of: **receiving** an information source identifier from a user (programming channel, see Hylton at column 33, lines 1-3), **transmitting** the information source identifier from the second TM-UWB transceiver to the first TM-UWB transceiver via the wireless communication link (see Hylton at column 30, lines 54-67, column 34, lines 31-34, column 35, lines 62-67 and



column 36, lines 1-4), **receiving** the signal at the tuner from a source identified by the information source identifier (column 29, lines 19-22), and **transmitting** the signal from the first TM-UWB transceiver to the second TM-UWB transceiver via the wireless communication link (column 29, lines 27-46, column 33, lines 66-67 and column 34, lines 1-9).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hylton and Fullerton as applied to claim 2 above, and further in view of Schultheiss et al. (Schultheiss) (6,545,722) (of record).

As to claim 4, while Hylton and Fullerton disclose the wireless distribution of video throughout a user's premises (column 3, lines 34-36), they fail to specifically disclose wherein the tuner and the video display are separated from one another by at least one wall.

Schultheiss discloses a wireless video distribution system wherein a computer tuning to Internet video and a wireless television receiver, which receives the video, are located in different rooms or floors of a users home (column 2, lines 33-37) for the typical advantage of allowing the user to conveniently receive the video signals anywhere in their home.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Hylton and Fullerton's system to include wherein the tuner and video display are separated from one another by at least one wall, at taught

by Schultheiss, for the typical advantage of allowing the user to conveniently receive the video signals anywhere in their home.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hylton and Fullerton as applied to claim 9 above, and further in view of Ghori et al. (Ghori) (6,282,714) (of record).

As to claim 10, while Hylton and Fullerton disclose transmitting signals, received at the tuner, from the first TM-UWB transceiver to a second TM-UWB transceiver, they fail to specifically disclose the compressing of the received signals prior to transmission and the decompressing of the signals prior to driving a display.

Ghori discloses a wireless video distribution system (abstract, lines 1-13) wherein a computer compresses a signal prior to wireless transmission (column 10, lines 38-45) and the receiver then decompresses the signal prior to viewing (column 13, lines 41-53) for the typical advantage of utilizing less bandwidth during wireless transmission.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Hylton and Fullerton's system to include the compressing of received signals prior to transmission and the decompressing of the signals prior to driving a display, as taught by Ghori, for the typical advantage of utilizing less bandwidth during wireless transmission.

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7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hylton and Fullerton as applied to claim 9 above, and further in view of Sarkar et al. (Sarkar) (US2003/0058828) (of record).

As to claim 18, while Hylton and Fullerton disclose the transmitting of signals from the second TM-UWB transceiver to the first TM-UWB transceiver via the wireless communications link (see Hylton at column 30, lines 54-64) they fail to disclose the transmitting of control signals to maintain the link quality of the wireless communications link.

Sarkar discloses the compiling of quality measurements of a wireless link and the transmitting of power control messages to maintain wireless link quality by adjusting transmission power levels (paragraphs 21-24) for the typical advantage of maintaining a high quality wireless transmission.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Hylton and Fullerton's method to include the transmitting of control signals to maintain the link quality of the wireless communications link, as taught by Sarkar, for the typical advantage of maintaining a high quality wireless transmission.

### ***Response to Arguments***

8. Applicant's arguments filed 06/21/04 have been fully considered but they are not persuasive.

In response to applicant's argument that the combination of Hylton and Fullerton would not enjoy a reasonable expectation of success due to the fact that Hylton utilizes a different antenna, amplifier, bandpass filter and signal-processing techniques than those needed by Fullerton, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

More specifically, the combination of Fullerton with Hylton was employed to teach the use of ultra-wideband transceivers to transmit and receive signals in the form of ultra-wideband impulse signals (i.e. impulse radio). It is understood that the implementation of the specific ultra-wideband transceivers disclosed by Fullerton into Hylton's distribution system would inherently include any additional modifications to provide functionality to the new transceivers. This includes implementing any specific type of antenna, filter, amplifier, signal processing etc..., utilized by Fullerton as necessary to provide functionality and gain the associated benefits.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Sheleheda whose telephone number is (703) 305-8722. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Sheleheda  
Patent Examiner


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